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N° 20,684



A.D. 1906

Date of Application, 18th Sept., 1906—Accepted, 11th Apr., 1907

COMPLETE SPECIFICATION.

Improvements in Composite Wooden Structural Elements applicable for Roofs, Barns, Ladders, Lattice Work, Furniture and other Structures.

I, CARL FRIEDRICH OTTO MEYER, of 73a Ebersburger Strasse, Weimar, Germany, Master Builder and Manufacturer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly

5 These improvements relate to composite wooden structural elements where three or more laths or boards of the same or different kinds of wood are placed one upon another and united by a cement and by being pressed together by means of any suitable and well known apparatus. For the purposes of my invention I press them into a curved or mostly curved form, by preference parabolic, the surfaces intended to adhere to each other having been coated with a mastic for producing intimate adhesion and which when dry is impervious to and unaffected by moisture or atmospheric influences: this mastic consists of one part of milk of lime well mixed with about ten parts of linum or elaeagné which has been comminuted and rendered into a thin porridge like consistency. The curved compound elements thus produced will when the mastic is dry and after removal from the mould retain their curvature and shape without warping while the adhesion of their constituent parts is secured. In many cases the element is composed partly of beech and partly of pine pieces.

Such elements are light and strong and are applicable for very many purposes; for instance as rafters for roofs or as skeleton framework for entire buildings (barns, tents, huts, barracks, drill halls, field hospitals, riding schools and halls) to be boarded over and covered with roofing felt or other suitable roof covering material; diagonal or longitudinal elements may be applied to unite the rafters in certain places. Roofs or entire buildings are thus produced which are very light, strong and cheap, offering less obstruction to the pressure of snow and wind and affording a clear vaulted interior useful space. The elements in the simple form named or combined as hereinafter described are also applicable for ladders, struts, lattice work, and other structures and for chairs and other furniture.

Figure 1 of the drawings is a side view and Figure 2 a front view of an element. Figure 3 is an end view of half a roof showing in dotted lines an outline of the work of an ordinary roof.

Figure 4 is a cross section and Figure 5 a side elevation of an element of a modified form.

Figure 6 is a cross section and Figure 7 a side elevation of another modification. a, b, and c Figures 1 and 2 are laths or boards of wood united by the mastic and pressed into a curved form; they all have the grain lengthways.

Figure 3 shows in dotted lines the rafters of an ordinary sloping roof where at a distance of A the vertical available height is only B and at a distance of C the vertical height or head room is only D, whereas in a roof made with my structural elements I obtain ample head room by the additional vertical heights B' and D'.

[Price 5s.]

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NO. 97,634—A.D. 1906

Improvements in Composite Wooden Structural Elements applicable for Roofs, &c.

may be arched from one side only, or from two opposite sides, or from the ends as well as from the sides.

Figures 4 and 5 show a compound element consisting of a central curved piece composed of laths or boards *a b* and *c* as in Figures 1 and 2 but joined by the mastic and by pressure to two boards *d d*. Such an element is suitable for instance in the making of chairs and other furniture.

Figures 6 and 7 show a compound element consisting of two elements like Figures 4 and 5 joined by the mastic and by pressure to a board *e* and having metal caps *f* at the ends. Such an element is suitable for use for instance as a strut, for the side parts of a ladder, and in lattice girders.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that I am aware that it has been proposed to unite vertical members by a cement, and pressure so as to form building elements, and to form girders, panels, tubes or blocks, said cements sometimes consisting of lime and caseine, also that ribs made of veneers cemented or riveted together in the direction of their length.

having straight upper and lower parts and intermediate curved parts, but I have now proposed for a skeleton frame for supporting a canvas tent covering, but what I claim is:—

1. Skeleton frames, which, with covering material, form roofs or entire buildings, made from building elements composed of layers of wood of the same or different kinds and having the grain longitudinally which are united by a mastic for producing intimate adhesion and which are so arranged as to be unaffected by moisture or atmospheric influences, such elements being by the application of pressure brought into a permanently curved form substantially as described with reference to Figures 1, 2 and 3.

2. A building element as firstly claimed provided with boards along each edge as described with reference to Figures 4 and 5.

3. Two building elements as secondly claimed combined with an intermediate board, as described with reference to Figures 6 and 7.

Dated this 18th day of September 1906.

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 HETZERS COMPLETE SPECIFICATION.

1 SHEET

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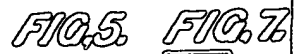
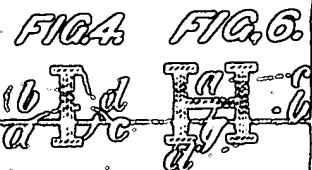
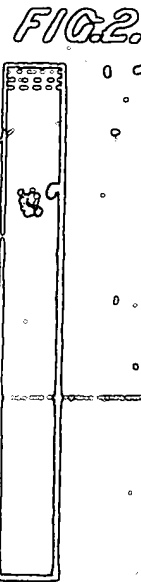
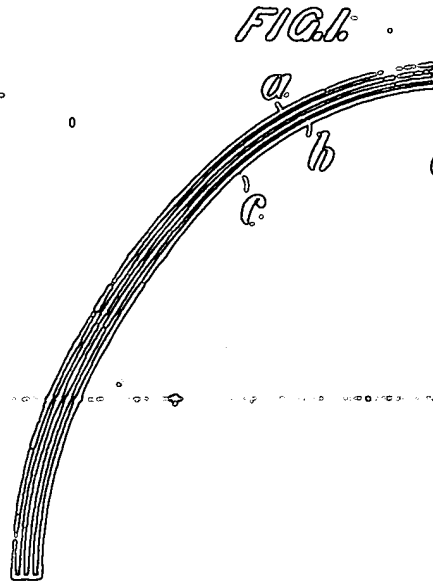


FIG. 3.

